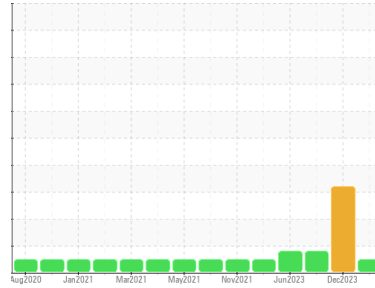




OIL ANALYSIS REPORT

Sample Rating Trend



NORMAL



Machine Id
427033-4033

Component
Diesel Engine

Fluid
PETRO CANADA DURON SHP 15W40 (--- LTR)

DIAGNOSIS

Recommendation

Resample at the next service interval to monitor.

Wear

All component wear rates are normal.

Contamination

There is no indication of any contamination in the oil.

Fluid Condition

The BN result indicates that there is suitable alkalinity remaining in the oil. The condition of the oil is suitable for further service.

SAMPLE INFORMATION

method	limit/base	current	history1	history2
Sample Number	Client Info	GFL0108267	GFL0098185	GFL0098249
Sample Date	Client Info	19 Feb 2024	12 Dec 2023	17 Nov 2023
Machine Age	hrs	15641	15292	15103
Oil Age	hrs	7165	7005	15103
Oil Changed	Client Info	Not Chngd	N/A	N/A
Sample Status		NORMAL	ABNORMAL	ABNORMAL

CONTAMINATION

method	limit/base	current	history1	history2
Fuel	WC Method >5	<1.0	<1.0	<1.0
Water	WC Method >0.2	NEG	NEG	NEG
Glycol	WC Method	NEG	NEG	NEG

WEAR METALS

method	limit/base	current	history1	history2
Iron	ppm ASTM D5185m >110	34	109	71
Chromium	ppm ASTM D5185m >4	2	▲ 9	▲ 6
Nickel	ppm ASTM D5185m >2	<1	<1	0
Titanium	ppm ASTM D5185m	<1	<1	<1
Silver	ppm ASTM D5185m >2	0	0	0
Aluminum	ppm ASTM D5185m >25	5	▲ 12	8
Lead	ppm ASTM D5185m >45	2	10	5
Copper	ppm ASTM D5185m >85	<1	4	3
Tin	ppm ASTM D5185m >4	1	2	<1
Vanadium	ppm ASTM D5185m	0	<1	0
Cadmium	ppm ASTM D5185m	0	<1	0

ADDITIVES

method	limit/base	current	history1	history2
Boron	ppm ASTM D5185m 0	12	16	13
Barium	ppm ASTM D5185m 0	0	0	0
Molybdenum	ppm ASTM D5185m 60	64	75	69
Manganese	ppm ASTM D5185m 0	<1	1	<1
Magnesium	ppm ASTM D5185m 1010	975	1154	1119
Calcium	ppm ASTM D5185m 1070	1179	1455	1310
Phosphorus	ppm ASTM D5185m 1150	1074	1276	1076
Zinc	ppm ASTM D5185m 1270	1342	1542	1428
Sulfur	ppm ASTM D5185m 2060	2961	3412	3155

CONTAMINANTS

method	limit/base	current	history1	history2
Silicon	ppm ASTM D5185m >30	12	▲ 37	26
Sodium	ppm ASTM D5185m	4	11	8
Potassium	ppm ASTM D5185m >20	5	7	2

INFRA-RED

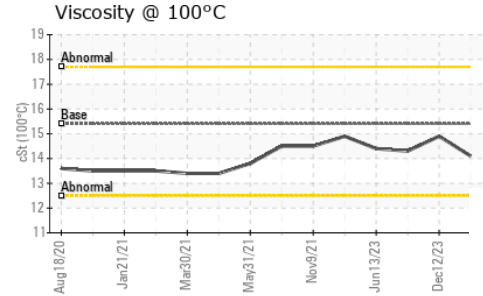
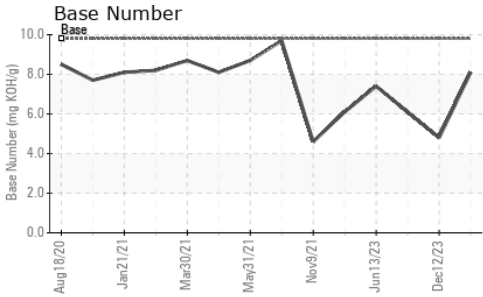
method	limit/base	current	history1	history2
Soot %	% *ASTM D7844 >3	0.5	0.6	0.4
Nitration	Abs/cm *ASTM D7624 >20	11.4	14.6	13.1
Sulfation	Abs/.1mm *ASTM D7415 >30	24.0	30.8	27.0

FLUID DEGRADATION

method	limit/base	current	history1	history2
Oxidation	Abs/.1mm *ASTM D7414 >25	21.5	32.6	26.8
Base Number (BN)	mg KOH/g ASTM D2896 9.8	8.1	4.8	6.1



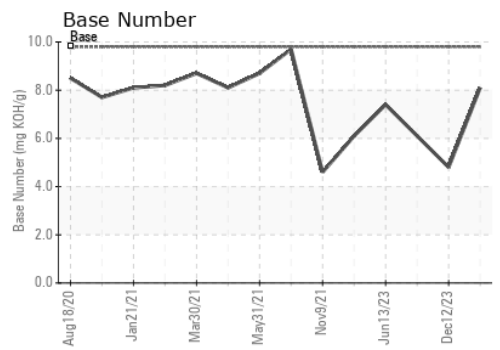
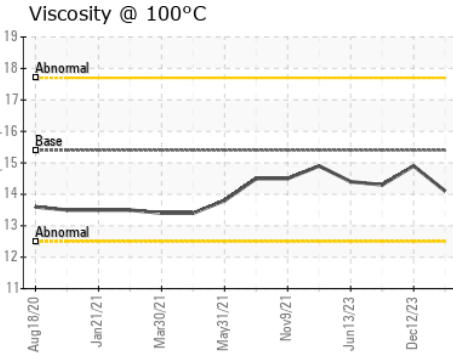
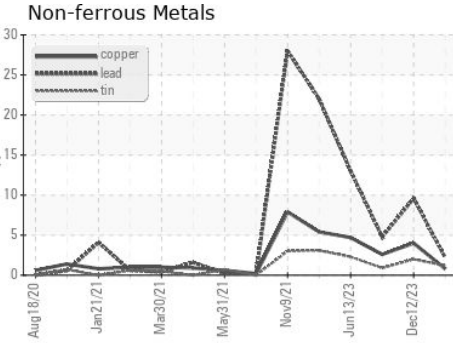
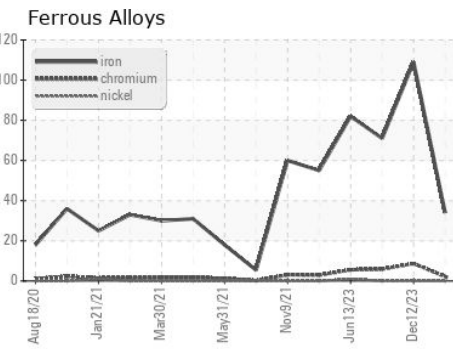
OIL ANALYSIS REPORT



VISUAL	method	limit/base	current	history1	history2
White Metal	scalar	*Visual	NONE	NONE	NONE
Yellow Metal	scalar	*Visual	NONE	NONE	NONE
Precipitate	scalar	*Visual	NONE	NONE	NONE
Silt	scalar	*Visual	NONE	NONE	NONE
Debris	scalar	*Visual	NONE	NONE	NONE
Sand/Dirt	scalar	*Visual	NONE	NONE	NONE
Appearance	scalar	*Visual	NORML	NORML	NORML
Odor	scalar	*Visual	NORML	NORML	NORML
Emulsified Water	scalar	*Visual	>0.2	NEG	NEG
Free Water	scalar	*Visual		NEG	NEG

FLUID PROPERTIES	method	limit/base	current	history1	history2	
Visc @ 100°C	cSt	ASTM D445	15.4	14.1	14.9	14.3

GRAPHS



Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513
Sample No. : GFL0108267
Lab Number : 06096036
Unique Number : 10888889
Test Package : FLEET
Received : 21 Feb 2024
Tested : 22 Feb 2024
Diagnosed : 22 Feb 2024 - Wes Davis

GFL Environmental - 652 - Fredericksburg Hauling
 10954 Houser Drive
 Fredericksburg, VA
 US 22408
 Contact: WILLIAM MILO
 wmilo@gflenv.com

Certificate L2367
 To discuss this sample report, contact Customer Service at 1-800-237-1369.
 * - Denotes test methods that are outside of the ISO 17025 scope of accreditation.
 Statements of conformity to specifications are based on the simple acceptance decision rule (JCGM 106:2012)